

Appl. No. 10/823,052
Amdt. Dated April 25, 2006
Reply to Office Action of November 25, 2005

Docket No. CM05224E1
Customer No. 22917

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A wireless communication terminal comprising a voltage controlled oscillator comprising:
 - an active device for producing a power gain;
 - a first variable capacitance, operably coupled to the active device, providing a variable capacitance value based on a voltage applied on a steering line; and
 - a feedback network comprising a resonator that is, operably coupled to an output of the active device and that is coupled in parallel to the first variable capacitance and a capacitor in series with the first variable capacitance, for feeding power back to an input of the active device to sustain oscillations;and wherein the voltage controlled oscillator further includes a second variable capacitance which is operably coupled to receive a control voltage from the steering line via a common isolator inductor as the first variable capacitance, wherein the second variable capacitance is coupled in series and is located between the resonator and the active device and is not directly connected to the first variable capacitance.
2. (original) The wireless communication terminal according to Claim 1, wherein the active device comprises a transistor.
3. (original) The wireless communication terminal according to Claim 2, wherein the transistor has a base electrode and the second variable capacitance is connected between the resonator and the base electrode of the transistor.

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4. (original) The wireless communication terminal according to Claim 1, wherein the second variable capacitance is operably configured such that, when a high tuning voltage is applied, a loaded-Q value of the voltage controlled oscillator is increased.

5. (original) The wireless communication terminal according to Claim 1, wherein the second variable capacitance is operably configured such that, when a low tuning voltage is applied, a gain margin of the voltage controlled oscillator is increased to a level sufficient to provide oscillations.

6. (original) The wireless communication terminal according to Claim 1, wherein the second variable capacitance provides a capacitance in a range of about 12pF to about 3pF.

7. (original) The wireless communication terminal according to claim 1, wherein in operation there is applied alternatively to the steering line a low tuning voltage in a range of about 0V to about 2.5V and a high tuning voltage in a range of about 2.5V to about 4.5V.

8. (original) The wireless communication terminal according to Claim 1, further comprising an inductor located on the steering line between the second variable capacitance and a digital-to-analogue converter, such that an independent voltage can be applied from the digital-to-analogue converter to the second variable capacitance.

9. (original) The wireless communication terminal according to Claim 1, wherein the voltage controlled oscillator comprises a Colpitts configured voltage controlled oscillator.

10. (original) The wireless communication terminal according to Claim 1, wherein the wireless communication terminal is operable according to operational standards selected from TETRA and GSM standards and is capable of generating radio frequency signals across two distinct operational frequency bands.

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11. (original) The wireless communication terminal according to Claim 1, wherein the wireless communication terminal comprises a device selected from a portable radio, a mobile radio, a mobile telephone, a personal digital assistant and a wireless capable laptop computer.

12. (currently amended) A voltage controlled oscillator circuit suitable for use in a wireless communication terminal, the voltage controlled oscillator circuit comprising:

an active device for producing a power gain;

a first variable capacitance operably coupled to the active device and providing a variable capacitance value based on an applied steering line control voltage; and

a feedback network comprising a resonator that is, operably coupled to an output of the active device and that is coupled in parallel to the first variable capacitance and a capacitor in series with the first variable capacitance, for feeding power back to an input of the active device to sustain oscillations;

and a second variable capacitance operably coupled to receive a control voltage from the steering line via a common isolator inductor as the first variable capacitance, wherein the second variable capacitance is coupled in series and located between the resonator and the active device and is not directly connected to the first variable capacitance.